

# *Practical Experiments*

*"Science"*

*For*

*Primary Six*

*First Term*



## Activity (1): How do we measure the mass of liquid?



**Tools:** A digital scale- clean glass - An amount of water.

**Steps: (for reading only)**

1. Put the clean digital scale horizontally on a stable shelf.
2. Bring an empty glass and record its mass by using the digital scale( $M_1$ )
3. Put the amount of water that needed to be measured in the glass, then recorded the total mass( $M_2$ )
4. Substract  $M_1$  from  $M_2$  to obtain the mass of water.

**Conclusion:**

The mass of the liquid = The mass of the glass with liquid ( $M_2$ ) - The mass of the empty glass ( $M_1$ ) = .....gm

$$\text{Mass of liquid} = M_2 - M_1$$

➡ The weight of any object can be measured by the **spring scale**.

## Activity (2): How can weight be measured?

**Tools:** A spring scale - an object

**Steps: (for reading only)**

1. Hold the spring scale from its hook.
2. Then hang the object in the bottom hook. If you cannot hang the object in the bottom hook, tie it with thread and then tie the thread in the bottom hook.
3. Let the object go down slowly.



**Observation:**

The object pulls the spring downwards and the reading of the pointer increases.

4. Wait until the object becomes stable to record the reading which refers to the object`s weight.

**Conclusion:**

The weight of any object can be measured by the spring scale by the determining the extension of its spring.

Weight = .....N

Note: Mass= Weight/10 gm





### Activity (3):

Use the Celsius thermometer to measure the liquid temperature

Tools: A Celsius thermometer, a glass of hot tea, a bottle of cold soft drink, a beaker of warm water.

Steps: (for reading only)

1. Put the thermometer in the hot tea.
2. Wait until mercury rises and stops.
3. record the temperature. ....



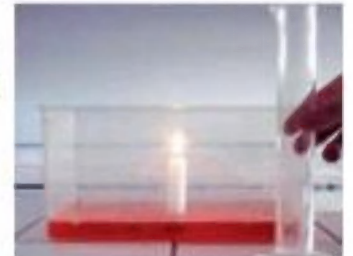
### Activity (4):

Calculate the percentage of oxygen in the air:

Tools: A glass basin, a graduated cylinder, a candle, colored water.

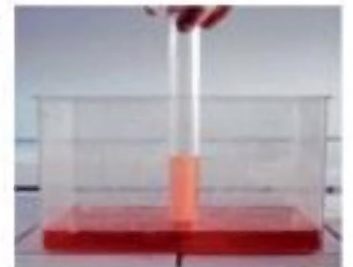
Steps: (for reading only)

- 1) Fix a lighted candle inside a basin containing colored water.
- 2) Cover the candle with the graduated cylinder.
- 3) Determine the water level outside and inside the cylinder.



Observation:

Water rises into the cylinder with **one fifth** of its volume.



► The consumed oxygen is **replaced with water** inside the cylinder.

Conclusion:

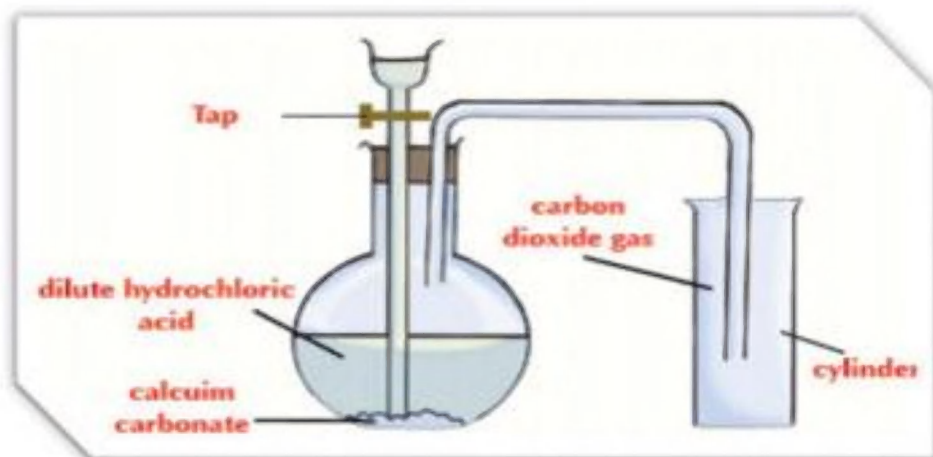
Oxygen occupies **one fifth (21%)** of the air volume.

## Activity (5):

### How to obtain carbon dioxide gas?

#### Tools:

Glass cylinders, glass flask with a stopper of two holes, a long funnel, diluted hydrochloric acid, calcium carbonate, a shaped U-shaped glass tube.



#### Steps: (for reading only)

1. Pour a little diluted acid on the calcium carbonate in a flask.
2. Collect a set of cylinders filled with carbon dioxide by **displacing the air upward**.

Observation: Carbon dioxide gas evolves, then passes in the tube to be collected in the cylinder.

Conclusion: Carbon dioxide gas is produced due to the reaction between **dilute hydrochloric acid** and **calcium carbonate** by **upward displacement of air**.

## Activity (6):

### How to obtain carbon dioxide gas from sodium bicarbonate?

Tools: Glass beaker, Lemon, Sodium bicarbonate.

#### Steps: (for reading only)

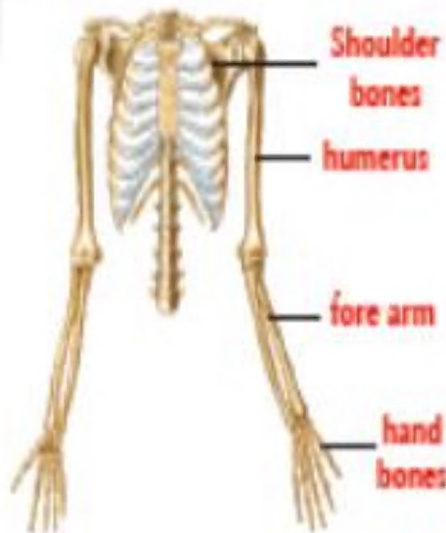
Squeeze half a lemon on a beaker that contains a little amount of Sodium bicarbonate.

Observation: Emission of Carbon dioxide gas that has no colour or smell.

Conclusion: Carbon dioxide gas is produced due to the reaction between **Lemon juice or vinegar** and **Sodium carbonate**.



## Activity (7):



### Bones of the upper limbs:

#### Its structure

It consists of **3 parts**:

1. Humerus bone
2. Forearm bones
3. Hand bones

They are connected to the **shoulder bones**.

#### Its functions

It allows eating, drinking, writing and holding things.

### JOINTS:-

*\*Freely movable joint: {Shoulder joint} : joint between shoulder and humerus.*

*\*Slightly movable joint: {Elbow joint} : joint between humerus and forearm.*

## Activity (8):

### Bones of the lower limbs:

#### structure

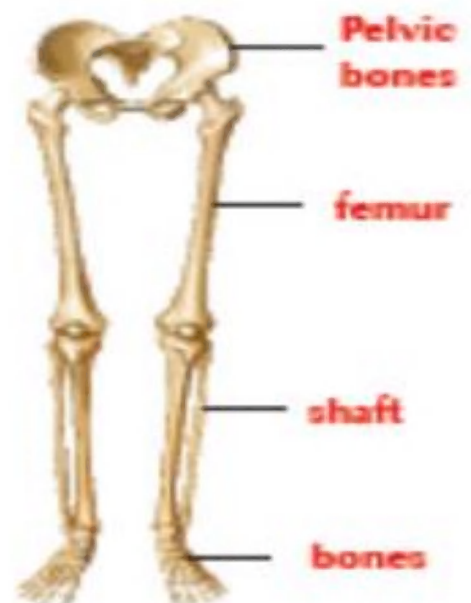
It consists of **3 parts**:

1. Femur
2. shaft bones
3. Foot bones.

It is connected to the **pelvic bones**.

#### Its functions

It allows walking, running, standing, sitting and carrying the rest of the body.



### JOINTS:-

*\*Freely movable joint: {Thigh joint} : joint between pelvic bones and femur.*

*\*Slightly movable joint : {Knee joint} : joint between femur and shaft bones*